AMENDMENTS TO THE CLAIMS

Please replace all prior versions of the claims with the following claim listing:

Claims:

1. (Currently Amended) A mechanical draft system comprising:

an intake fan for drawing air from outside a mechanical room into the mechanical room;

a plurality of heating appliances, each heating appliance having an air intake for drawing air from the mechanical room into the heating appliance and having an air exhaust for exhausting air out of the heating appliance;

ducts, connected to the air exhausts of the heating appliances, for transporting air outside the mechanical room;

an exhaust fan, connected to the ducts, for drawing air from the ducts to the atmosphere;

a differential transducer for receiving a first pressure reading from inside the mechanical room and a second pressure reading from the atmosphere, the differential transducer outputting a differential pressure signal indicative of the difference between the first and second pressure readings; and

a pressure controller for controlling the speed of the intake fan, the speed of the exhaust fan, and the operation of the plurality of heating appliances in response to the differential pressure signal.

2. (Currently Amended) The mechanical draft system of claim 1, further comprising:

an intake fan interface connected between the pressure controller and the intake fan;

an exhaust fan interface connected between the pressure controller and the exhaust fan; and

a plurality of appliance interfaces, each appliance interface connected between the pressure controller and the respective heating appliance.

3. (Original) The mechanical draft system of claim 2, wherein the intake fan interface and exhaust fan interface are configured to indicate to the pressure controller the presence of the respective fan, to indicate to the pressure controller whether the respective fan is operating properly, and to indicate to the pressure controller the speed of the respective fan.

4. (Currently Amended) The mechanical draft system of claim 2, wherein the appliance interfaces are configured to indicate to the pressure controller the presence of the respective heating appliance and to indicated to the pressure controller whether the respective heating appliance is running.

5. (Original) The mechanical draft system of claim 1, further comprising:

a first pressure sensor, located within the mechanical room, for supplying said first pressure reading; and

a second pressure sensor, located within the atmosphere, for supplying said second pressure reading.

6. (Currently Amended) The mechanical draft system of claim 1, further comprising:

a plurality of adjustable baffles, each adjustable baffle corresponding to a respective appliance and connected in the air exhaust of the respective heating appliances; and

a modulating damper connected in the ducts;

wherein the pressure controller controls the position of the adjustable baffles and modulating damper.

7. (Original) A pressure controller for controlling the flow of air through a mechanical draft system, the pressure controller comprising:

an appliance controller configured to control the operation of a plurality of appliances;

an intake fan controller configured to control the speed of an intake fan;

an exhaust fan controller configured to control the speed of an exhaust fan; and

a processor configured to receive a differential pressure signal and to control the operation of the plurality of appliances, the speed of the intake fan, and the speed of the exhaust fan in response to the differential pressure signal.

8. (Original) The pressure controller of claim 7, further comprising:

at least one input device configured to receive inputs for establishing operation parameters of the mechanical draft system; and

at least one display device configured to display operation conditions of the mechanical draft system.

9. (Original) The pressure controller of claim 7, wherein the appliance controller controls up to six appliances.

10. (Original) The pressure controller of claim 9, further comprising a relay board, wherein the appliance controller and relay board control up to ten appliances.

11. (Original) The pressure controller of claim 9, further comprising an external communication link for connection with one or more relay boxes, wherein the appliance controller and relay boxes control more than ten appliances.

12. (Original) The pressure controller of claim 7, wherein the plurality of appliances comprises boilers, furnaces, water heaters, or laundry dryers.

13. (Original) The pressure controller of claim 7, further comprising an RS-232 port for connecting the processor to an external processor.

14. (Original) The pressure controller of claim 7, wherein the processor comprises an input for receiving the differential pressure signal from a differential transducer.

15. (Original) The pressure controller of claim 14, wherein the differential pressure signal is the difference in pressure between the atmosphere and a mechanical room in which the plurality of appliances are located.

16. (Original) A control system for controlling air pressure in a mechanical draft system, the control system comprising:

means for determining a difference in pressure between the atmosphere and the interior of a mechanical room;

means for controller the speed of an intake fan and exhaust fan in response to the difference in pressure; and

means for shutting down a plurality of appliances in the mechanical room when the difference in pressure exceeds a predetermined threshold.

17. (Original) The control system of claim 16, further comprising means for resetting appliances that have been shut down when the difference in pressure no longer exceeds the predetermined threshold.

18-19. (Canceled)

20. (Original) A method for controlling pressure in a mechanical draft system, the method comprising:

checking a differential pressure between the interior of a mechanical room and the atmosphere;

shutting down a plurality of appliances in the mechanical room when the differential pressure exceeds a predetermined threshold; and

adjusting the speed of an intake fan and exhaust fan in the mechanical draft system when the differential pressure is not equalized.

21. (Original) The method of claim 20, further comprising:

maintaining the speed of the intake fan and exhaust fan when the differential pressure is equalized.

22. (Original) The method of claim 20, wherein, when the pressure inside the mechanical room is greater than the pressure in the atmosphere, said adjusting comprises at least one of:

decreasing the speed of the intake fan; and

increasing the speed of the exhaust fan.

23. (Original) The method of claim 20, wherein, when the pressure in the atmosphere is greater than the pressure inside the mechanical room, said adjusting comprises at least one of:

increasing the speed of the intake fan; and

decreasing the speed of the exhaust fan.

24. (Original) The method of claim 23, further comprising:

adjusting the position of adjustable baffles in exhaust ducts from each appliance.

25. (Original) The method of claim 20, further comprising:

adjusting the position of a modulating damper when the differential pressure is not equalized.

26. (Original) A processor for controlling a mechanical draft system, the processor comprising:

means for shutting down a plurality of appliances when a differential pressure exceeds a predetermined threshold;

means for restarting the appliances in succession in an order based on a priority list; and

means for monitoring the differential pressure to ensure that the means for restarting does not cause the differential pressure to exceed the predetermined threshold.

27. (Original) The processor of claim 26, further comprising means for determining if an exhaust fan is operating properly.

28. (Original) The processor of claim 27, wherein the means for restarting restarts the plurality of appliances when the means for determining determines that the exhaust fan is operating properly.

29. (Original) The processor of claim 26, wherein the priority list is based on the proximity of the appliances to a vertical stack.

30. (Canceled)